

10/552,522

REMARKS

Claim 1 has been amended to insert the limitation that the CsBr crystal has an impurity level of from 0 to 0.22 percent. The 0.22 percent value corresponds to that of the CsBr crystal that is used in the example. See the amendment to page 6 of the application, which was made in the preliminary amendment that was filed together with the national phase application. The application generally is concerned with high purity CsBr crystals, as indicated at page 5 lines 8-11 of the specification.

Claims 1-11 stand rejected over the combination of JP 000-249768 (Nichimura) in view of the Hamanatsu product literature. The latter reference is cited only as showing the use of a particular type of photoelectron multiplier tube.

The primary reference describes the use of a doped CsBr crystal as a scintillator. The doped CsBr has been prepared with specified amounts of added iodine. That crystal has the formula



where x is from 0.01 to 0.1. Therefore, at least one mole percent of bromide ions in the crystal are replaced with iodide ions. The reference further teaches that x is preferably at least 0.05, in which case five mole percent or more of the bromide ions are replaced with iodide.

By contrast, the CsBr crystal of the present invention is essentially a pure CsBr crystal, which has, at most, insignificant amounts (no more than 0.22 percent) of impurities such as iodide. In other words, the CsBr crystal in the present invention can contain no more than one-fifth of the amount of impurities that are present in Nichimura's crystal.

The Nichimura reference actually teaches away from the use of an essentially pure CsBr crystal. According to the reference, fluorescence intensity becomes weak when the value of x is less than 0.01.

10/552,522

Since neither reference teaches or suggests the use of the high purity CsBr crystal in as a scintillator, and because the primary reference actually teaches away from using such a crystal, the invention as now claimed is neither anticipated by nor obvious over the cited references.

Respectfully submitted,  
GARY C. COHN PLLC

---

Gary C. Cohn  
Registration No. 30,456  
Phone: (215) 931-0372  
1147 N. 4<sup>th</sup> Street  
Unit 6E  
Philadelphia, PA 19123